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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,567	03/11/2004	Eddy B. Boskamp	GEMS8081.203	2566
27061	7590	04/20/2005	EXAMINER	
ZIOLKOWSKI PATENT SOLUTIONS GROUP, SC (GEMS)			SHRIVASTAV, BRIJ B	
14135 NORTH CEDARBURG ROAD			ART UNIT	
MEQUON, WI 53097			PAPER NUMBER	
			2859	

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/708,567

Applicant(s)

BOSKAMP ET AL.

Examiner

Brij B. Shrivastav

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>March 16, 2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Weyers (US 6,608,480).

As regards to claim 1, Weyers teaches an MR coil assembly, including a volume coil arrangement situated to generate a polarized field about a subject to be imaged, having multiple drive ports connected to a common end of the volume coil arrangement and with multiple drive cables connectable to a voltage source at one end and connected to the multiple drive ports at another end to apply voltages to the multiple drive ports such that the volume coil arrangement generates a substantially circular polarized field independent of subject asymmetry (figures 1, 2 and 4-6; column 3 and 4, lines 33-67 and 1-67).

As regards to claims 2-9, Weyers further teach limitation of each of these claims, wherein a birdcage coil with multiple cables and drive ports with center being not be a virtual ground, and having fewer drive cables than the ports, balun connected to the

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ports and the splitter connecting balun through a cable, ports having 90 degree phase difference or sixteen coil arrangement ($n=4$ or $n=16$) (figures 1, 3-6).

As regards to claims 10-23, Weyers teaches a magnetic resonance imaging apparatus and method having a magnetic resonance system with a plurality of gradient coils positioned about a bore of the system having a magnet to impress a polarizing magnetic field and an RF switch controlled by a transceiver system and an RF pulse module to transmit RF signals to an RF coil assembly acquiring MR data from a subject (column 1, lines 7-67), the RF coil assembly to acquire a plurality of RF coils arranged in a birdcage arrangement to transmit RF energy toward the subject at least partially positioned in a volume-of-interest, and a number of drive ports to receive an applied voltage to drive the plurality of RF coils and maintain a substantially circular polarized field about the volume-of-interest independent of subject contact with the RF coil assembly (figures 3-5; column 3 and 4, lines 33-67 and 1-67).

As regard to claims 11-18 and 20-23, Weyers further teach limitation of each of these claims, wherein a birdcage coil with multiple cables and drive ports with center being not be a virtual ground, and having fewer drive cables than the ports, balun connected to the ports and the splitter connecting balun through a cable, ports having 90 degree phase difference or sixteen coil arrangement ($n=4$ or $n=16$) (figures 1, 3-6).


3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brij B. Shrivastav whose telephone number is 571-272-2250. The examiner can normally be reached on 7 AM to 4 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F. F. Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 28, 2005


Brij B Shrivastav
Examiner
Art Unit 2859
